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☐ 1: P05364. Beta-lactamase pr...[gi:113727]

BLink, Domains, Links

LOCUS P05364 381 aa linear BCT 15-JUN-2002

DEFINITION Beta-lactamase precursor (Cephalosporinase)..

ACCESSION P05364

VERSION P05364 GI:113727

DBSOURCE swissprot: locus AMPC_ENTCL, accession P05364;
class: standard.
created: Nov 1, 1988.
sequence updated: Nov 1, 1988.
annotation updated: Jun 15, 2002.
xrefs: gi: 42260, gi: 42261, gi: 41970, gi: 41971, gi: 42611, gi: 757841, gi: 67778, gi: 67777, gi: 67776, pdb accession 1BLS, pdb accession 2BLT
xrefs (non-sequence databases): MEROPSS12.UNW, InterProIPR001466, InterProIPR001586, PfamPF00144, PROSITEPS00336

KEYWORDS Hydrolase; Antibiotic resistance; Periplasmic; Signal; 3D-structure.

SOURCE Enterobacter cloacae

ORGANISM Enterobacter cloacae
Bacteria; Proteobacteria; Gammaproteobacteria; Enterobacteriales; Enterobacteriaceae; Enterobacter.

REFERENCE 1 (residues 1 to 381)

AUTHORS Galleni,M., Lindberg,F., Normark,S., Cole,S., Honore,N., Joris,B. and Frere,J.M.

TITLE Sequence and comparative analysis of three Enterobacter cloacae ampC beta-lactamase genes and their products

JOURNAL Biochem. J. 250 (3), 753-760 (1988)

MEDLINE 88268750

PUBMED 3260487

REMARK SEQUENCE FROM N.A.
STRAIN=P99, Q908R, and MHN1

REFERENCE 2 (residues 1 to 381)

AUTHORS Lobkovsky,E., Moews,P.C., Liu,H., Zhao,H., Frere,J.M. and Knox,J.R.

TITLE Evolution of an enzyme activity: crystallographic structure at 2-A resolution of cephalosporinase from the ampC gene of Enterobacter cloacae P99 and comparison with a class A penicillinase

JOURNAL Proc. Natl. Acad. Sci. U.S.A. 90 (23), 11257-11261 (1993)

MEDLINE 94068583

PUBMED 8248237

REMARK X-RAY CRYSTALLOGRAPHY (2.0 ANGSTROMS).
STRAIN=P99

REFERENCE 3 (residues 1 to 381)

AUTHORS Lobkovsky,E., Billings,E.M., Moews,P.C., Rahil,J., Pratt,R.F. and Knox,J.R.

TITLE Crystallographic structure of a phosphonate derivative of the Enterobacter cloacae P99 cephalosporinase: mechanistic interpretation of a beta-lactamase transition-state analog

JOURNAL Biochemistry 33 (22), 6762-6772 (1994)

MEDLINE 94263990

PUBMED 8204611

REMARK X-RAY CRYSTALLOGRAPHY (2.3 ANGSTROMS).
STRAIN=P99

COMMENT -----

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[FUNCTION] THIS PROTEIN IS A SERINE BETA-LACTAMASE WITH A SUBSTRATE SPECIFICITY FOR CEPHALOSPORINS.

[CATALYTIC ACTIVITY] A beta-lactam + H(2)O = a substituted beta-amino acid.

[SUBCELLULAR LOCATION] Periplasmic (By similarity).

[MISCELLANEOUS] THE SEQUENCE SHOWN IS THAT OF STRAIN P99.

[SIMILARITY] BELONGS TO THE CLASS-C BETA-LACTAMASE FAMILY.

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Protein	1..381 /gene="AMPC" /product="Beta-lactamase precursor" /EC_number="3.5.2.6"
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Region	14 /gene="AMPC" /region_name="Variant" /note="I -> L (IN STRAIN MHN1)."
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Region	36 /gene="AMPC" /region_name="Variant" /note="I -> V (IN STRAINS MHN1 AND Q980R)."
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ORIGIN

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Revised: August 5, 2002.

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